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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,916	07/25/2003	David Wei Wang	68.0345	2409

35204 7590 11/10/2005

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EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,916	Applicant(s) WANG ET AL.	
	Examiner Jennifer H. Gay	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

- “interlocking layers of mesh material” as recited in claims 1 and 21. The examiner notes that the features of Figure 1 are described as fiber strands 16 that make up a mesh medium 12. While the examiner realizes that it is the “mesh medium” that is described as having interlocking layers, an individual fiber strand cannot be considered an individual layer but is actually part of the layers where each layer would be made up of a plurality of fiber strands.
- Connecting the layers “by fibers extending from an individual interlocking layer into the next adjacent interlocking layer” as recited in claim 1. The examiner notes that this seems to be what applicant considers the most important aspect of the claimed invention but such a connection has not been shown.
- The fiber strands being metallic in accordance with the appropriate crosshatching listed in 37 CFR 1.84(h)(3).
- The mesh medium covering only a portion of the base pipe as recited in claim 13.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure

Art Unit: 3672

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is considered to be indefinite because it is not possible for the examiner to determine from the claim or the specification what applicant considers "a standard mesh" to entail. Clarification is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. (US 6,006,829) in view of Mutzenberg et al. (US 4,250,172).

Regarding claim 1: Whitlock et al. discloses a mesh screen apparatus used in a wellbore. The apparatus includes a mesh medium having a plurality of layers of mesh material 23 located over a base pipe 10 having openings 12 in its sidewall.

Whitlock et al. discloses all of the limitations of the above claims except for the plurality mesh material layers being interlocked by fibers from one layer extending into and interlocking with fibers in an adjacent layer.

Mutzenberg et al. discloses a filtering mat. Mutzenberg et al. further teaches that the mat includes a plurality of layers (2:59-63; Figures) that are interlocked (1:63-66) by needling the layers.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the layers of Whitlock et al. so that they interlocked as taught by Mutzenberg et al. in order to have created a mechanically stable mesh screen thus preventing damage in the wellbore (2:48-56).

Regarding claims 2-4: The mesh material is made up of metallic fiber strands that are arranged orthogonally.

Regarding claims 5, 6: The mesh material forms a seamless tubular.

Regarding claim 7: The mesh medium inherently has a porosity.

Regarding claims 8, 10: The mesh material is made up of fiber strands and the porosity of the material is inherently determined by the thickness and diameter of the strands as the size and number of openings in the material would be directly proportional to the thickness and diameter of the strands.

Regarding claim 12: Standard mesh may be incorporated into one of the layers.

Regarding claim 13: The mesh medium covers only a portion of the base pipe (Figures 1-3).

6. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. in view of Mutzenberg et al. as applied to claim 1 above, and further in view of Schulte (US 6,237,780).

Whitlock et al. and Mutzenberg et al. disclose all of the limitations of the above claims except for the mesh material including fiber strands of variable diameter or the mesh medium being of variable thickness.

Schulte teaches a mesh screen apparatus that includes a screen where the mesh material includes fiber strands; the porosity of the material is determined by the thickness of the strands. The strands may also be of variable diameter thus varying the porosity across the medium.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the screen of Whitlock et al. in view of Mutzenberg et al. to include fiber strands of variable diameter and thickness as taught by Schulte in order to have improved the particle separation and reduce the need to frequently clean the screen, thereby maintaining the desired flow rate.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. in view of Mutzenberg et al. and Bayne et al. (US 2002/0007948).

Whitlock et al. discloses a mesh screen apparatus used in a wellbore that includes a plurality of layers of mesh material 23.

Whitlock et al. discloses all of the limitations of the above claims except for the layers of mesh material being interlocking and except for the apparatus including at least one intelligent completion device that is at least partially enclosed by the mesh medium.

Mutzenberg et al. discloses a filtering mat. Mutzenberg et al. further teaches that the mat includes a plurality of layers (2:59-63; Figures) that are interlocked (1:63-66).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the layers of Whitlock et al. so that they interlocked as taught by Mutzenberg et al. in order to have created a mechanically stable mesh screen thus preventing damage in the wellbore (2:48-56).

Bayne et al. discloses a composite member having a fiber optic line embedded therein (paragraphs [0032] and [0036]). The fiber optic line is used in gravel pack screens to obtain real time data during production.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Whitlock et al. in view of Mutzenberg et al. to include at least one intelligent completion device that is at least partially enclosed by a mesh medium or screen as taught by Bayne et al. in order to have monitored downhole parameters and operations during well production.

Response to Arguments

8. In view of applicant's amendment, the 35 USC 112(1) rejection of claims 1-13 has been withdrawn.

9. Applicant's arguments, filed October 24th 2005, with respect to the rejection(s) of claim(s) 1-13 and 21 under 35 USC 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mutzenberg et al.

10. Applicant has argued that Bayne et al. does not teach a mesh medium. While the examiner acknowledges that Bayne et al. does not teach this feature, it is noted that Bayne et al. was used merely to teach an intelligent completion device enclosed by a screen; Whitlock et al. in view of Mutzenberg et al. teaches a mesh medium.

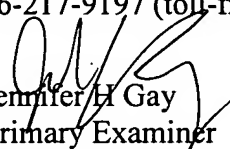
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer H. Gay
Primary Examiner
Art Unit 3672



JHG

November 8, 2005